

AVDOSHHN, Ye. M., Cand Agr Sci -- (diss) "Research into the frost-resistance of timber in connection with the transplanting of trees during wintertime." Moscow, 1960. 22 pp; 3 pages of charts; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Forestry Engineering Inst); 150 copies; price not given; (KL, 18-60, 154)

AVIJS'YEV, B.S.: VOTNYI, N.Ye.

Eliminating *Dactylogyrus* infection in a fish rearing pond.
Veterinaria 40 no.8:55-56 Ag '63.

(MIRA 17:10)

1. L'vovskaya opytnaya stantsiya rybovodstva.

GOLOVATSKIY, I.D. [Holovats'kyi, I.D.]; AVDOS'YEV, B.S. [Avdos'iev, B.S.];
NAZARKEVICH, Z.P. [Nazarkevych, Z.P.]

Chemical composition of the blood of various fishes (carp, sazan).
Ukr. biokhim. zhur. 35 no.2:234-238 '63. (MIRA 17:9)

1. Department of Biochemistry of Lvov Zooveterinary Institute and
the Lvov Experimental Fishery Station.

AVDGS'YEV, V.S.; DEMCHENKO, I.F.; KARPENKO, I.M.; KULAKOVSEAYA, O.P.

Treatment and prophylaxis in the infestation of pikes with leeches.
Veterinariia 39 no.7:60 J1 '62. (MIRA 18:1)

1. L'vovskaya stantsiya rybovodstva.

AVDOS ¹EV, V. S., DEMCHENKO, I. F., KARPENKO, I. M. and KULAKOVSKAYA, O. P. [L'vov
Station of Fish Farming]

"Treatment and measures for prophylaxis of pikes parasitized by leeches"

Veterinariya, vol. 39, no. 7, July 1962 pp. 60

AVDOT'IN, I. Arkhitekt.

How types of large-scale livestock sections for cattle. Sel'. stroi.
11 [i.e. 12] no.2:20-24 F '57. (MIRA 10:4)

1. Mladshiy nauchnyy sotrudnik nauchno-issledovatel'skogo instituta
sel'skikh zdaniy i soorusheniy Akademii stroitel'stva i arkhitektury
SSSR. (Barns)

AVDOT'EN, L., kand. arkhitektury; VAND, L., inzh.

Designing apartment houses by electronic computers. Zhil.
stroi. no. 1:24-25 '65. (MIRA 18:3)

AVDOT, IN. Lev Nikolayevich, kand. arkhitekt.; RAZINKOV, P., red.; PAVLOVA, S.,
tekhn. red.

[Construction of stock-raising buildings] Stroitel'stvo zhivotnovod-
cheskikh zdaniy. Moskva, Mosk. rabochiy, 1960. 166 p. (MIRA 14:9)
(Farm buildings)

AVDOT'IN, L.N., kandidat arkhitektury

Types of dairy farm buildings for loose housing of cattle in
groups. Sbor. nauch. soob. NIIsel'stroia no.3:18-25 '60.
(MIRA 15:6)

(Dairy barns)

MANCHENKO, V.P., inzhener; AVDUKOV, M.I., inzhener; DROBINSKIY, V.A.,
inzhener, redaktor.

[Manual for the steam locomotive crew] Pamiatka parovoznoi brigade.
Moskva, Gos. transp. zhel-dor. izd-vo, 1953. 125 p. (MLRA 7:5)
(Locomotives--Handbooks, manuals, etc.)

MAMCHENKO, V.P., inzh.; BELKIN, M.N., inzh. [deceased]; ZAV'YALOV,
G.N., inzh.; DZHAVOKHIN, T.V., inzh.; CHEPYZHOV, B.F., inzh.;
MOLYARCHUK, V.S., kand. tekhn. nauk; KRUCHININ, M.S., inzh.;
AVDUKOV, M.I., inzh.; MEL'NIKOV, V.Ye., red.; MEDVEDEVA, M.A.,
tekhn. red.

[Manual for the locomotive engineer] Rukovodstvo parovoznomu
mashinistu. Izd.2., ispr. i dop. Pod obshchei red. V.S.
Moliarchuka. Moskva, Transzheldorizdat, 1963. 389 p.
(MIRA 16:12)

1. Russia (1923- U.S.S.R.) Ministerstvo putey soobshcheniya.
(Locomotives--Handbooks, manuals, etc.)

AVDULINA, Anna Sergeyevna; STAROSTENKOVA, M.M., red.; RAKITIN, I.T.,
tekhn. red.

[Do you know how to breathe? Conversations with a specialist in
exercise therapy] Umeete li vy dyshat'; besedy metodista lecheb-
noi gimnastiki. Moskva, Izd-vo "Znanie," 1961. 35 p. (Vsesoiuz-
noe obshchestvo po rasprostraneniю politicheskikh i nauchnykh
znaniy. Ser.8, Biologiya i meditsina, no.23) (MIRA 15:1)
(EXERCISE THERAPY) (RESPIRATION)

AVDULINA, Anna Sergeyovna; NEYMAN, M.I., red.

[Exercise therapy in cardiovascular diseases] Lecheb-
naya fizkul'tura pri serdechno-sosudistyykh zabolevaniyakh.
Moskva, Meditsina, 1964. 95 p. (MIRA 17:8)

AVDULINA, Anna Sergeyevna; LAGUTINA, Ye.V., red.

[Do you know how to breathe?] Umeete li vy dyshat'?
2. izd. Moskva, Znanie, 1965. 46 p. (Narodnyi uni-
versitet: Fakul'tet zdorov'ia, no.15) (MIRA 18:8)

LEVIN, M.M.; AVDULOV, A.N.; ROZENBAUM, B.S., red.; LUK'YANOV, A.K., red.;
KCGAN, F.L., tekhn. red.; ALEKSEYEVA, T.V., tekhn. red.

[New instruments for measuring angular and linear values in the
manufacture of machinery abroad] Novye pribory dlia kontrolya uglo-
vykh i lineinykh velichin v zarubezhnom mashinostroenii; obzor. Mo-
skva, 1961. 105 p. (MIRA 14:11)

1. Tsentral'nyy institut nauchno-tekhnicheskoy informatsii mashino-
stroyeniya.
(Machinery industry) (Measuring instruments)

AVDULOV, A.N.; NIKITIN, B.D.

Support for a precise rotation. Stan. i instr. 36 no.2:12-14
F '65. (MIRA 18:3)

AVDULOV, A.N.

Jig measuring machines (revue of foreign models). Stan. 1 instr. 32
no. 5:31-35 My '61. (MIRA 14:5)
(Machine tools)

AVDULOV, A.N.

Roundness measuring instrument; survey of foreign literature.
Stan.1 instr. 32 no.8:30-34 Ag '61. (MIRA 14:8)
(Measuring instruments)

AVDULOV, A.N.

Seismic method for testing kinematic precision of gear-cutting
machines; survey of foreign literature. Stan.i instr. 33 no.1:
40-44 Ja '62. (MIRA 15:2)

(Gear-cutting machines--Testing)

AVDULOV, A.N.; SHUSTER, V.L.

Distortion of part profile in recording the roundness of parts.
Stan. 1 instr. 36 no.9:22-24 S '65. (MIRA 18:10)

AYZENSHTADT, L.A.; PEN'KOV, P.M.; GLADKOV, B.A.; LIKHT, L.O.;
 KRIMMER, T.Ye.; KASHEPAV, M.Ya., kand. tekhn. nauk;
 MERPERT, M.P., kand. tekhn. nauk; KOPERBAKH, B.L.;
 CHERNIKOV, S.S., kand. tekhn.nauk; BELOV, V.S.; ZHURIN,
 B.F.; MONAKHOV, G.A., kand.tekhn.nauk; MOROZOV, I.I.;
 MUSHTAYEV, A.F.; OGNEV, N.N.; PALEY, M.B., kand. tekhn.
 nauk; FURMAN, D.B.; LIVSHITS, A.L., kand.tekhn.nauk;MECHETNER,
 B.Kh.;SOSENKO,A.B.;AVDULOV, A.N.; LIWIN, A.A., kand.tekhn.
 nauk; YAKOBSON, M.O., doktor tekhn.nauk; MAYOROVA, E.A.,
 kand.tekhn.nauk; MOROZOVA, Ye.M.; ZUSMAN, V.G., kand.tekhn.
 nauk; NAYDIS, V.A., kand.tekhn.nauk; VLADZIYEVSKIY, A.P., prof.,
 doktor tekhn. nauk, red.; BELOGUR-YASNOVSKAYA, R.I., red.;
 CHIGAREVA, E.I., red.; ASVAL'DOV, M.Ya., red.; KOGAN, F.L.,
 tekhn. red.

[Machine-tool industry in capitalist countries] Stanko-
 stroenie v kapitalisticheskikh stranakh. Pod red. i s pre-
 disl. A.P.Vladzievskogo. Moskva, 1962. 822 p. (MIRA 15:7)

1. Moscow. TSentral'nyy institut nauchno-tekhnicheskoy in-
 formatsii mashinostroyeniya. 2. Eksperimental'nyy nauchno-
 issledovatel'skiy institut metallorazhreshchikh stankov
 (for Vladziyevskiy, Belogur-Yasnovekaya, Chigareva, Asval'dov,
 Kogan).

(Machine-tool industry)

AVDULOV, A.N.

New optical instrument for checking machine tools. Stan. 1
instr. 35 no.6837-40 Ja '64 (MIRA 1788)

KLOKMAN, V.R. ; AVDULOV, G.I.

Effect of the radius of the microcomponent ions on crystallization
in the systems $PbCl_2 - SrCl_2 - CaCl_2$ and $PbCl_2 - SrCl_2 - KCl$.
~~Radiokhimiya~~ no. 4:399-399 '60. (MIRA 13:9)
(Crystallization) (Chlorides)

AVDULOV, M.V.

Determining the representativity error of gravity anomalies by the
mean gradient method. Izv. vys. ucheb. zav.; geod. i aerof. no.4:
67-74 '61. (MIRA 15:1)

1. Moskovskiy gosudarstvennyy universitet.
(Gravimetry)

S/169/62/000/003/010/098
D228/D301

3.9110

AUTHOR: Avdulov, M. V.

TITLE: Interpreting gravity and magnetic observations by the method of theoretical fields

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 3, 1962, 19, abstract 3A156 (V sb. Prikl. geofizika, no. 30, M., 1961, 143-153)

TEXT: Expressions are adduced for the second derivatives of the gravity potential in a vertical direction for a vertical circular cylinder, a vertical elliptical cylinder, a horizontal elliptical cylinder, and a body whose vertical section is a parallelogram. The interpretation consists of the comparison of the curve of an observed anomaly with theoretical curves. All curves are constructed on a bilogarithmic scale. In selecting the theoretical curve the possible geologic structure of the locality is taken into consideration. Sets of theoretical curves are constructed for a sphere, a hemisphere, and a vertical material line. The resolving ca-

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Interpreting gravity and ...

S/169/62/000/003/010/098
D228/D301

capacity of the curves falls as the depth of the disturbing body increases. [Abstracter's note: Complete translation.]

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AVDULOV, M.V.

Geological nature of the gravity anomaly of Elbrus. Izv. AN
SSSR. Ser.geol. 27 no.9:67-74 S '62. (MIRA 15:9)

1. Moskovskiy gosudarstvennyy universitet.
(Elbrus, Mount--Gravity)

AVDULOV, M.V.

Evaluation of the accuracy of gravimetric charts. Prikl. geofiz.
no.36:167-180 '63. (MIRA 16:9)

(Gravity anomalies)

AVDULOV, M.V.

Crustal structure according to gravimetric data in the central
and western Caucasus. Sov. geol. 6 no.9:73-89 S '63.

(MIRA 17:10)

1. Moskovskiy gosudarstvennyy universitet im. Lomonosova.

ACC NR: AT6034363

SOURCE CODE: UR/0000/66/000/000/0027/0030

AUTHOR: Avdulov, M. V.

ORG: none

TITLE: Gravity and magnetic fields of the Crimean Mountains

SOURCE: AN SSSR. Mezhdudomstvennyy geofizicheskiy komitet. Stroyeniye Chernomorskoy vpadiny (Structure of the Black Sea depression); sbornik statey. Moscow, Izd-vo Nauka, 1966, 27-30.

TOPIC TAGS: Mohorovicic discontinuity, ^{earth}magnetic field, ^{earth}magnetism, anomaly, gravity ~~field~~, ~~gravity anomaly~~, earth crust / *Crimean Mountains*

ABSTRACT: A very general qualitative interpretation is presented of the data from gravity and magnetic surveys of the Crimean Mountains. The area was about 6000 km² (275 gravity and 220 magnetic observation points). The gravity field of this region is believed to be a continuation of the field of the Black Sea depression. The gravity anomaly values in the Crimean Mountains increase from northeast to southwest, with the greatest values occurring in the western part of the folded structure. The gravity and magnetic data indicate that the western part of the Crimean Mountains is bound by relatively deep-seated faults. Except for the rocks from regions adjacent to the

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ACC NR: AT6034363

platform, the rock density was found to be between 2.6—2.7 gr/cm³, i.e., the density of rocks from the folded structure is very close to that of the granitic layer. Analysis of the gravity data indicates that the depth of the Mohorovicic discontinuity in this area of the Crimea is much shallower than the 45 km estimated from earlier surveys. Orig. art. has: 2 figures.

SUB CODE: 08/ SUBM DATE: 04May66/ ORIG REF: 003

ALL NKI AR0022001

SOURCE CODE: UR/0387/66/000/010/0077,008

AUTHOR: Avdulov, M. V.

ORG: Physics Department, Moscow State University, imeni M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet, Fizicheskii fakul'tet)

TITLE: Some problems of quantitative interpretation of gravity anomalies above regularly formed bodies

SOURCE: AN SSSR. Izvestiya. Fizika Zemli, no. 10, 1966, 77-86

TOPIC TAGS: gravity, model, gravimetric analysis

ABSTRACT: The author has attempted to find a means of determining the period of an anomaly such that quantitative evaluations may be made. The graphic representation (curve) of a gravity field over a body is divided into three segments: top, steepest slope, and lower flank. The first and third segments reflect rather complex laws, but the middle segment represents a change in gravitational field that is approximately linear. The tangent of this slope represents the maximum gradient value for the anomaly. When a theoretical curve, such as this, is compared with the profile of an actual gravimetric map, the third segment (the lower flank) is found to be missing from the profile obtained from field data. This is undoubtedly due to the effect of neighboring anomalous bodies in nature. This discrepancy points up the problem of proper determination of the actual amplitude of an anomaly. The question the author

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UDC: 550.831

ACC NR: AF6035601

considers is: Do the first two segments of the profile contain sufficient information to permit reliable evaluation of the third segment? He concludes that they do, and he offers proof by means of some gravity models. Orig. art. has: 12 figures and 12 formulas.

SUB CODE: 08/ SUBM DATE: 26Feb64/ ORIG REF: 006

Card 2/2

BURCHAKOV, A.S., doktor tekhn. nauk; VOROSHEV, E.M., kand. tekhn. nauk.
SHORIN, V.G., doktor tekhn. nauk; STOILOV, P.T., aspirant

Using the PERT system for planning the expansion of mining
operations in a mine. Ugol' 40 no. 4:20-24 Ap '55.

(MIRA 18:5)

1. Moskovskiy institut radicelektroniki i garovy elektroniki.

BURCHAKOV, A.S., prof.; VOROB'YEV, B.M., dotsent; SHORIN, V.G., prof.; AVDULOV,
P.V., gornyy inzh.

Structure of the system of operational control in coal mines. Ugol'.
40 no.9:46-49 S '65. (MIRA 18:10)

AVDULOV, V. P.

35256. Primenenie betona i zhelezobetona v grazdanskom stroitel'stve.
Trudy IV vsesoyoz konf-tsii po beton i zhetezobeton. Konstruktsiyam.
Ch. I. M.-L., 1949, S. 80-84

SO: Letopis' Zhurnal'nykh Statey Vol. 34, 1949 Moskva

BAUM, A.; URAZOVA, Z.; NEZLOBIN, M.; AVDUS', P.

On the road of technological progress; materials of a review of the introduction and contests in the development of technical innovations. Muk.-elev. prom. 29 no.4:13-17 Ap '63.

(MIRA 16:7)

1. TSentral'nyy institut nauchno-tekhnicheskoy informatsii Gosudarstvennogo komiteta zagotovok (for Baum). 2. Nauchno-tekhnicheskoye obshchestvo mukomol'noy i krupyanoy promyshlennosti i elevatornogo khozyaystva (for Urazova). 3. Nachal'nik otdela tekhnicheskogo razvitiya mukomol'no-krupyanoy i kombinirovannoy promyshlennosti Proizvodstvenno-tekhnicheskogo upravleniya Gosudarstvennogo komiteta zagotovok (for Nezlobin). 4. Direktor TSentral'noy laboratorii Gosudarstvennoy khlebnoy inspeksii (for Avdus').

(Grain-handling machinery)

Method: P.D.

AVDUS', P.; DYKHNE, I.

Rapid determination of the moisture content of oilseeds. Muk.-elev.
prom.21 no.8:7-8 J1[Ag] '55. (MLRA 8:12)

1. Tsentral'naya laboratoriya Gosudarstvennoy inspeksii po kachestvu
sel'skokhozyaystvennykh produktov
(Oilseeds)

AVDUS, P. B.

USSR/Chemical Technology. Chemical Products and Their Application -- Fats and oils. Waxes. Soap. Detergents. Flotation reagents, I-25

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6380

Author: Avdus', P. B.

Institution: None

Title: Accelerated Determination of Moisture Content of Sunflower Seed

Original

Publication: Maslob.-zhir. prom-st', 1956, No 1, 25-27

Abstract: Two procedures are proposed for an accelerated determination of moisture in sunflower seed (S). The first consists in drying samples of unmilled seed (of 5 g each) taken from different parts of an average specimen, in a ShEG electric drying oven, with forced draft at 130°, for 10 minutes in screen containers. After cooling for 5-10 minutes in a desiccator the containers are weighed. Moisture is determined by the difference in the weight of S before and after drying. The second procedure of accelerated determination of the moisture content of S in drying ovens with natural draft, consists in drying samples of unmilled S, of 5 g each, in two containers with a screen bottom, at 140° for 20 minutes.

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MAMBISH, I.Ye.; AVDUS', P.B.

Rapid determination of the moisture content of dry corn.

Spirit. prom. 24 no.5:11-15 '58.

(MIRA 11:9)

(Corn (Maize)--Analysis)

AVDUS', Pavel Borisovich; DYKHNE, Paddy Naumovich; DENISENKOVA, L.M.,
red.; KUZ'MINA, N.S., tekhnred.

[Tables for converting readings of measuring devices of the VP-4,
VE-2, and VE-2m moisture meters into moisture percentage of grain
crops with corrections made for temperature] Tablitsy perevoda
pokazanii izmeritelei vlagomerov VP-4, VE-2 i VE-2m v protsenty
vleshmesti zernovykh kul'tur s uchetoм temperaturnykh popravok.
Moskva, Izd-vo tekhn.i ekon.lit-ry po voprosam mukomol'no-kрупianoi,
kombikormovoi promyshl. i elevatorno-nkladskogo khoz., 1959. 229 p.

(MIRA 13:7)

(Grain trade--Tables and ready reckoners) (Moisture)

AVDUS', P.

Using LHM laboratory grain mills. Muk.-elev.prom. 26 no.1:29
Ja '60. (MIRA 13:6)

1. TSentral'naya laboratoriya Gosudarstvennoy khlebnoy inspeksii.
(Grain milling)

AVDUS, Pavel Borisovich; SAPOZHNIKOVA, Aleksandra Semenovna;
D'YACHENKO, V.M., red.; GOLUBKOVA, L.A., tekhn. red.

[Determining the quality of grain, flour, and groats] Opre-
delenie kachestva zerna, muki i krupy. Moskva, Zagotizdat,
1961. 245 p. (MIRA 15:4)
(Grain—Grading) (Flour—Grading)

BURCHAKOV, A.S., prof.; VOROB'YEV, B.M., dotsent; AVDULOV, P.V.,
aspirant; SHORIN, V.G., prof.; LIKHTERMAN, S.S.; BUSAROV, Yu.F.

Experimental application of network planning in operating
mines. Ugol' 40 no.11:44-47 '65. (MIRA 18:11)

1. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki
(for Burchakov, Vorob'yev, Avdulov, Shorin). 2. Glavnyy inzh.
shakhty No.1 "Bibikovskaya" (for Likhterman). 3. Pomoshchnik
glavnogo inzhenera shakhty No.1 "Bibikovskaya" (for Busarov).

AVDUS', Z. I.

Cand. Physicomath Sci.

Dissertation: "Investigation of the Propagation of Ultrasonic Waves in
Organic Liquids Near their Freezing Points."

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Moscow Oblast' Pedagogical Inst.

SO Vecheryaya Moskva
Sum 71

YERMAKOV, V., master-povar; STERLIKOV, A., master-pover (g.Alma-Ata);
TUL'CHINSKIY, N., master-povar (g.Kiyev); KULINKOVICH, Yu.,
master-povar (g.Minsk); KOZYREV, N., master-povar (Moskva.)
AVDUSHEV, M., master-povar(g.Riga); ZOLOTUKHIN, S., master-
povar (g.Tashkent); MEZHGAYLIS, M. [Mezgailis, M.], master-
povar (g.Riga); TURSUNOV, A., master-povar (g.Tashkent);
MARTOS, N., master-povar (g.Noril'sk)

Show the example, share the experience. Obshchestv. pit.
no.8:37-40 Ag '61. (MIRA 14:10)

(Cookery)

AVDUSHEVA, M.P.; YOSTRIKOVA, V.A.; LIPIAN-SKAYA, R.S.; SHIYAN, I.K. Prinsipalni uchastnye: ANTONETS, I.G., nauchnyy sotrudnik; BELENKINA, S.G., nauchnyy sotrudnik; YEVLANOV, V.D., nauchnyy sotrudnik; SHAIN, B.S., nauchnyy sotrudnik; LYCHAGIN, N.S. SKAB, A.D., kand.istor.nauk, red.; VORONINA, V.M., red.; SHEVCHENKO, M.G., tekhn.red.

[History of the Kharkov Locomotive Plant from 1895 to 1917; collected documents and materials] Istoriia Khar'kovskogo parovozostroitel'nogo zavoda, 1895-1917 gg.; sbornik dokumentov i materialov. Khar'kov, Khar'kovskoe obl.izd-vo, 1956. 378 p. (MIRA 14:1)

1. Kharkov. (Province) Gosudarstvennyy arkhiv. 2. Gosudarstvennyy arkhiv Khar'kovskoy oblasti (for Antonets, Belenkina, Yevlancv, Shain). (Kharkov--Locomotives--Construction)

Avijudat, D.T.

AVDUSIN, D.A.; BELOGORTSEV, I.D.; BUDAYEV, D.I.; MINKIN, A.Ye.; RYABKOV,
G.T.; SHENKIN, A.M., IVANOV, I.P.; KROLIK, I.D.; ANDREYEV, N.V.;
VALIKOVA, K., red.; FILIPPENKOVA, M., tekhn.red.

[Smolensk; a guidebook] Smolensk; spravochnik-putevoditel'.

[Smolensk] Smolenskoe knizhnoe izd-vo, 1957. 217 p. (MIRA 11:1)
(Smolensk--Description)

AVDUSTOV, I.A.

Attachments for preliminary milling of bevel gears. Stan.1 instr.
33 no.8:37-38 Ag '62. (MIRA 15:8)
(Milling machines--Attachments) (Gear cutting)

YEVTEYEV, Viktor Ivanovich; ZMETNYI, Aleksey Yakovlevich; NOVIKOV,
Igor' Vladimirovich; AVDUYEVSKAYA, G.V., red.; ASNINA,
N.I., tekhn. red.

[Plotting of a perspective drawing; manual for teachers]
Postroenie perspektivnogo risunka; posobie dlia uchitelei.
Leningrad, Uchpedgiz, 1963. 198 p. (MIRA 17:1)

AUTHORS: Tananayev, I. V., Avduyevskaya, K. A. SOV/78-3-9-26/38

TITLE: The Interaction in the System $\text{GeO}_2\text{-HF-H}_2\text{O}$ at a Temperature of 25°C (O vzaimodeystvii v sisteme $\text{GeO}_2\text{-HF-H}_2\text{O}$ pri 25°)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 9, pp 2165-2171 (USSR)

ABSTRACT: The forms and conditions of production of fluorine compounds of germanium in the system $\text{GeO}_2\text{-HF-H}_2\text{O}$ were analyzed with physico-chemical methods. The methods used were the determination of solubility and electric conductivity. A diagram of solubility in the system $\text{GeO}_2\text{-HF-H}_2\text{O}$ was established. In the case of an HF content of 0-35% there is a linear increase of the solubility of germanium oxide until a molar ratio of $\text{HF} : \text{GeO}_2 = 4$ is reached. In the range of between 35 and 41% HF the solubility curve changes the direction. In this point a transformation of $\text{GeF}_4 \cdot 3\text{H}_2\text{O}$ into hexafluorine germanic acid - $\text{H}_2\text{GeF}_6 \cdot 2\text{H}_2\text{O}$ - takes place. By determining the solubility and electric conductivity, as well as the pH-value of the solution it was

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SOV/78-3-9-26/38

The Interaction in the System $\text{GeO}_2\text{-HF-H}_2\text{O}$ at a Temperature of 25°C

shown that the compounds of the solid phase also exist in the aqueous medium. In the system $\text{GeO}_2\text{-HF-H}_2\text{O}$ only $\text{H}_2[\text{GeOF}_4]$ and $\text{H}_2[\text{GeF}_6]$ are formed. Besides GeO_2 also $\text{H}_2[\text{GeOF}_4]\cdot\text{H}_2\text{O}$ and $\text{H}_2[\text{GeF}_6]\cdot 2\text{H}_2\text{O}$ appear as solid phases in the system. The formation of these complex acids is confirmed by the determination of electric conductivity. There are 5 figures, 6 tables, and 13 references, 3 of which are Soviet.

SUBMITTED: July 24, 1957

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AUTHORS: Tananayev, I. V., Avduyevskaya, K. A. SOY/78-3-9-27/38

TITLE: Analysis of the Interaction in the System $\text{GeO}_2\text{-H}_2\text{C}_2\text{O}_4\text{-H}_2\text{O}$
at 25°C (Issledovaniye vzaimodeystviya v sisteme $\text{GeO}_2\text{-H}_2\text{C}_2\text{O}_4\text{-H}_2\text{O}$ pri 25°)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 9, pp 2172-2177 (USSR)

ABSTRACT: In the paper under review the interaction of $\text{GeO}_2\text{-H}_2\text{C}_2\text{O}_4$ in aqueous solutions was analyzed by the potentiometric method as well as by determining the electric conductivity and solubility at 25°C. In the interaction of germanium oxide and oxalic acid the concentration of hydrogen ions increases. There is a continuous increase of the concentration of hydrogen ions and conductivity until a ratio of $\text{H}_2\text{C}_2\text{O}_4 : \text{GeO}_2 = 3 : 1$ is reached, after which it remains constant. The resulting conclusion is that a complex of germanic acid with the formula $\text{H}_2[\text{Ge}(\text{C}_2\text{O}_4)_3]$ exists in solution. The analyses of solubility at 25°C showed that 0,045 mol per liter dissolve in oxalic acid. In a saturated solution of germanic acid with excess oxalic acid added

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SOV/78-3-9-27/38

Analysis of the Interaction in the System $\text{GeO}_2\text{-H}_2\text{C}_2\text{O}_4\text{-H}_2\text{O}$ at 25°C

germanium oxalic acid crystallizes in colorless needle-shaped crystals. This compound has the following composition: $\text{H}_2[\text{Ge}(\text{C}_2\text{O}_4)_3] \cdot 6\text{H}_2\text{O}$. The result of the analysis was as follows:

$\text{Ge} = 16,7\%$, $\text{C}_2\text{O}_4 = 60,19\%$, $\text{H}_2\text{O} = 23,64\%$. In an acid medium

germanium oxalic acid exists as an ion only $[\text{Ge}(\text{C}_2\text{O}_4)_3]^{2-}$. A

lessening of the acidity of the solution gives rise to ions with a lower ratio of $(\text{C}_2\text{O}_4)^{2-} : \text{GeO}_2$. Thermograms of a complex

of germanium oxalic acid were recorded. At 43°C an endothermic effect occurs, which corresponds to the melting point of this

compound. Ammonium and potassium salts of germanium oxalic acid were produced: $(\text{NH}_4)_2[\text{Ge}(\text{OH})_2(\text{C}_2\text{O}_4)_2] \cdot 3\text{H}_2\text{O}$ and

$\text{K}_2[\text{Ge}(\text{OH})_2(\text{C}_2\text{O}_4)_2] \cdot 3\text{H}_2\text{O}$.

There are 5 figures, 3 tables, and 10 references, 1 of which is Soviet.

SUBMITTED: April 7, 1958

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5-2) 5.2620

68:09
SOV/78-5-1-11/45AUTHORS: Tananayev, I. V., Avduyevskaya, K. A.

TITLE: On the Fluorogermanates of Some Bivalent Metals

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 1, pp 63 - 67
(USSR)

ABSTRACT: The authors produced the salts $\text{MeGeF}_6 \cdot 6\text{H}_2\text{O}$ (Me = Mg, Zn, Cd, Fe, Co, Ni, Mn) and $\text{MeGeF}_6 \cdot 2\text{H}_2\text{O}$ (Me = Sr, Ca) (Table), and moreover, the hexafluorosilicates of Mg, Cd, Co, Ni, and Sr for the purpose of comparing the thermal stability. Figure 1 shows the microphotographs of some characteristic crystals of the fluorogermanates (Co, Mn, Cd). The structural investigation of the Co salt revealed a similarity with the structure of $[\text{Ni}(\text{H}_2\text{O})_6][\text{SnCl}_6]$, so that the more correct way of writing the hexahydrate formula would be: $[\text{Me}(\text{H}_2\text{O})_6] \cdot [\text{GeF}_6]$. Thermograms of all compounds were plotted (Figs 2-10). These are very similar to one another and show the stepwise discharge of water and eventually, the decomposition into MeF_2 and GeF_4 . The thermogram

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On the Fluorogermanates of Some Bivalent Metals

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SOV/78-5-1-11/45

of the Fe compound (Fig 3) differs somewhat, because oxidation of Fe^{II} occurs additionally. The thermograms of $\text{CaSiF}_6 \cdot 2\text{H}_2\text{O}$ and $\text{CaGeF}_6 \cdot 2\text{H}_2\text{O}$ are likewise very similar to one another; the fluorosilicate decomposition, however, occurs at a lower temperature. The same holds for the hexahydrates of the fluorosilicates of Mg (Fig 11), Cd, Ni, Ca, and Sr. The hexafluorogermanates are thermally more stable than the corresponding silicon compounds. There are 11 figures, 1 table, and 9 references, 5 of which are Soviet.

SUBMITTED: May 22, 1959

Card 2/2

S/078/63/008/004/012/013
A059/A126AUTHORS: Avduevskaya, K.A., Tananayev, I.V.TITLE: On the interaction of GeO_2 with orthophosphoric acid

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 4, 1963, 1,020 - 1,021

TEXT: The aim of this paper is to explain the conditions of germanium orthophosphate formation, its nature, thermal stability, and the reason of its dissolution in H_3PO_4 . H_3PO_4 solutions were saturated with GeO_2 at 25°C . The solubility of GeO_2 in H_3PO_4 passes a minimum (0.025 mole/kg) at $\text{H}_3\text{PO}_4 = 1.5$ mole/kg. When GeO_2 is dissolved in H_3PO_4 at a concentration of the latter in excess of 2.7 mole/kg, metastable solutions are formed. The solid phase precipitated from the metastable solutions after washing with alcohol and drying at 100°C corresponds to the formula $\text{GeO}_2 \cdot \text{P}_2\text{O}_5 \cdot 2\text{H}_2\text{O}$. This compound is insoluble in H_3PO_4 at concentrations greater than 3.0 mole/kg. While the solubility of GeO_2 in H_2SO_4 , HClO_4 , and HNO_3 decreases with increasing concentration of the acid, germanium oxide is very easily soluble in HF and $\text{H}_2\text{C}_2\text{O}_4$, and so GeO_2 .

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S/078/63/008/004/012/013

A059/A126

On the interaction of GeO_2 with orthophosphoric acid

$\text{P}_2\text{O}_5 \cdot 2\text{H}_2\text{O}$ has to be considered as the diposphorogermanic acid of the composition either $\text{H} [\text{Ge}(\text{OH})(\text{HPO}_4)_2]$ or $\text{H}_2 [\text{GeO}(\text{HPO}_4)_2]$. It has been further established that, at 700°C , GeP_2O_7 is formed from this acid which begins to split off P_2O_5 at 900°C . At a temperature in the neighborhood of $1,200^\circ\text{C}$, P_2O_5 is completely removed leaving molten GeO_2 . There are 2 figures.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N.S. Kurnakov of the Academy of Sciences USSR)

SUBMITTED: October 12, 1952

Card 2/2

AVDUYEVSKAYA, K.A.; TANANAYEV, I.V.; MIRONOVA, V.S.

Reaction of GeO_2 with KH_2PO_4 solutions. Izv. AN SSSR. Neorg.
mat. 1 no.6:894-899 Je '65. (MIRA 18:8)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.
Kurnakova AN SSSR.

SCHLICHTING, Hermann; VOL'PERT, G.A. [Translator]; AVDUYEVSKIY, V.S., redaktor;
LIKHUSHIN, V.Ya., redaktor; GERMOGENOV, A.V., redaktor; BELOVA, M.A.,
tekhnicheskiy redaktor

[Boundary layer theory] Teoriya pogranichnogo sloia. Perëvod s nemets-
kogo G.A.Vol'perta. Pod red. V.S.Avduevskogo i V.IA.Likhushina. Moskva,
Izd-vo inostrannoi lit-ry, 1956. 528 p. (MLRA 9:6)
(Boundary layer)

SOV/5405

PHASE I BOOK EXPLOITATION

Avduyevskiy, Vsevolod Sergeyevich, Yuriy Ivanovich Danilov, Valentin Konstantinovich Koshkin, Professor, Igor' Nikolayevich Kutyrin, Militsa Mitrofanovna Mikhaylova, Yuriy Sergeyevich Mikheyev, and Oleg Sergeyevich Sergel'

Osnovy teploperedachi v aviatsionnoy i raketnoy tekhnike (Principles of Heat Transfer in Aeronautic and Rocket Engineering) Moscow, Oborongiz, 1960. 388 p. Errata slip inserted. 8,800 copies printed.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya RSFSR.

Gen. Ed. (Title page): V. K. Koshkin, Professor; Ed. (Inside book): A. S. Ginevskiy, Candidate of Technical Sciences; Ed. of Publishing House: E. A. Shekhtman; Tech. Ed.: V. P. Rozhin; Managing Ed.: A. S. Zaymovskaya, Engineer.

PURPOSE: This textbook is intended for students in aeronautical

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Principles of Heat (Cont.)

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schools of higher technical education. It may also be useful to engineering and technical personnel and aspirants specializing in aircraft and rocket heat-exchange problems.

COVERAGE: The book presents the fundamental problems of heat exchange in modern aircraft and rocket engineering. Data were taken from both Soviet and non-Soviet sources. Problems of high-speed and high-temperature gas flow in the presence of chemical reactions in the boundary layer are discussed, and hydrodynamic methods of heat protection of surfaces and heating problems in winged flying vehicles are included. Attention is given to principles of heat exchange in rarefied gases and in nuclear power reactors. No personalities are mentioned. Chapters VIII to XV are based on non-Soviet literature. Chs. I and II were written by Professor V. K. Koshkin, Ch. III by Docent M. M. Mikhaylova, Ch. IV by Docent O. S. Sergel', Chs. V and VI by Docent Yu. S. Mikheyev, Ch. VII by Docent I. N. Kutyrin, Chs. VIII to XVI by Docent V. S. Avduyevskiy, and Ch. XVII by Docent Yu. I. Danilov.

Card 2/20

ABRAMOVICH, Genrikh Naumovich. Prinimali uchastiye: YAKOVLEVSKIY, O.V.;
AVDUYEVSKIY, V.S.; SMIRNOVA, I.P.; CHERKEZ, A.Ya. APEL'BAUM,
S.O., red.; TUMARKINA, N.A., tekhn.red.

[Theory of turbulent jets] Teoriia turbulentnykh strui. Moskva,
Gos.izd-vo fiziko-matem.lit-ry, 1960. 715 p. (MIRA 13:10)
(Turbulence) (Jets)

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24.5200

S/179/60/000/01/001/034
E031/E535

AUTHORS: Avduyevskiy, V.S. and Kopyatkevich, R. M. (Moscow)

TITLE: Calculation of the Laminar Boundary Layer in a Compressible Gas with Heat Transfer and an Arbitrary Pressure Distribution Along the Surface 7/0

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1960, Nr 1, pp 3-11 (USSR)

ABSTRACT: An approximate calculation of the laminar boundary layer for an arbitrary pressure distribution, based on the use of integral expressions and additional relations between the heat flows, friction stresses and the local characteristics of the boundary layer for an incompressible fluid were developed in Ref 1. Exact solutions for a special case were derived in Ref 2. Similar solutions were obtained in Ref 3 for the case of a compressible fluid with heat transfer by an approximate method based on the use of integral impulsive relations. This method is unsuitable for regions of maximum pressure gradient and maximum heat flow. In this paper a more general class

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Calculation of the Laminar Boundary Layer in a Compressible Gas
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of similar solutions is considered and an approximate method for supersonic flows with a large pressure gradient is proposed. A laminar boundary layer in steady axisymmetric flow of a compressible fluid along a curved surface with a Prandtl number of unity is discussed. A transformation to plane flow is introduced, new variables are chosen and after choice of a particular velocity profile, $U_1 = cx^m$, a further change of variable is made. For some values of $\beta = 2m/(m + 1)$ numerical solutions have been obtained on digital computers (Refs 2,3). The investigation is here carried out at higher values of β , a simplification being made in considering a thermally isolated surface. It appears that for $2 < \beta$ the simplification introduces a deformation of the velocity profile which is insignificant. Attention is now focussed on the second of the two ordinary differential equations which were obtained from the initial partial differential equations with the aid of the

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the Surface

transformations mentioned above. From this equation the temperature profile can be obtained. In the next section flow at an arbitrary velocity inside the boundary layer is considered, starting from an integral expression for the energy, and assuming that the temperature at some part of the wall is constant and that the velocity and temperature profiles are functions of a single parameter. Analysis shows that this parameter enters the differential equation for the energy linearly. Solution of the equation and the expression for the parameter are quoted. In these general expressions the consequence of putting the wall temperature constant is followed out. The following special cases are mentioned briefly: 1) plane axisymmetric flow round a blunt-nosed body; 2) supersonic flow round a sharp leading edge; 3) subsonic flow over a wedge. Finally the case of a given temperature variation on the

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wall is considered. Expressions for the non-dimensional thickness of the energy loss and the Nusselt number are quoted for supersonic flow round a cone. Good agreement is claimed for the Nusselt number by comparison with the exact solution in the case of a plate. There are 6 figures and 4 references, 2 of which are Soviet and 2 English.

SUBMITTED: July 31, 1959

Card 4/4

17.4430

83307

S/179/60/000/04/005/027

E031/E135

AUTHORS: Avduyevskiy, V.S., and Obroskova, Ye.I. (Moscow)

TITLE: The Investigation of the Laminar Boundary Layer on a Porous Plate with Heat and Mass Transfer

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1960, No 4, pp 25-34

TEXT: The authors consider the problem of a laminar boundary layer on a permeable flat plate surrounded by a flow of a compressible gas in the case that a gas with physical properties differing from those of the incident flow is fed through the surface. Thermal diffusion, diffusion heat conductivity and radiation are ignored and it is assumed that no chemical reactions take place in the mixture. The conservation conditions for the i -th component at the plate are considered and it is shown that if the concentration of the i -th component in a cooling mixture is constant, then the concentration of the gas at the wall cannot be given independently of the inflow of the coolant. Next the heat balance at the plate is considered, and an expression is derived for the quantity of heat which passes through the boundary layer to the wall due to heat conductivity and diffusion to heat the coolant.

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The Investigation of the Laminar Boundary Layer on a Porous Plate with Heat and Mass Transfer

It is also shown that for constant initial enthalpy of the coolant the temperature of the wall varies with the inflow of the coolant. The analysis so far has been for the case of forced inflow of coolant, but all the conclusions remain valid in the case of a surface where evaporation is taking place. It is only necessary to add a condition relating the temperature of evaporation to the concentration of the evaporating substance at the wall. In order to obtain approximate methods of making the boundary layer calculations, integral representations are introduced for the momentum, mass conservation for the 1-th component, and conservation of energy. Next the concept of heat and mass transfer coefficients is introduced. The concluding section of the paper is devoted to an example to show the effect of mass transfer on the characteristics of the boundary layer. Dissociation and chemical reactions are absent, the temperature of the wall is constant and given and the problem is considered in two dimensions. It is assumed that a gas is introduced through the wall, the concentration of the coolant being kept constant in the surface of the plate.

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The temperature of the gas which is introduced is equal to that of the wall. Thus there is a mixture of two gases in the boundary layer. The viscosity of the mixture is calculated as a function of the concentration by a method given by J. Wilke (Ref 2), which gives good agreement with experimental results. The relation between the viscosity and the temperature is given by Southerland's formula. The density is given by the usual expression. A linear relation was taken between the heat conductivity and the concentration. The binary diffusion coefficient depends only on the temperature (Ref 3). In order to solve the boundary layer equations, Dorodnitsin variables are introduced by putting $Y = \int_0^y \rho dy$. A further transformation introduces $\eta = Y/(x)^{1/2}$ and the stream function $\psi = x^{1/2} f(\eta)$. It is assumed that the temperature and the heat capacity are functions only of η . Thus the partial differential equations are reduced to ordinary differential equations, which were solved on a digital computer by the method of successive approximations. Initially f was taken Card 3/4

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The Investigation of the Laminar Boundary Layer on a Porous Plate
with Heat and Mass Transfer

as the Blasius function. The number of approximations calculated varied between 7 and 13. Even for a small inflow of a light gas there is a considerable reduction in the heat transfer coefficient. To control the accuracy of the numerical integration, the momentum equation was evaluated using the results of the exact solution. Finally the heat balance on the wall was considered, assuming that all the heat passing from the boundary layer to the wall goes to increase the enthalpy of the coolant, neglecting heat loss due to radiation and flow along the surface. There are 5 figures and 4 references: 3 English and 1 Soviet.

SUBMITTED: September 30, 1959

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37136

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E191/E435

10.1300

AUTHOR: Avduevskiy, V.S. (Moscow)

TITLE: Analysis of a three-dimensional laminar boundary layer at the separation lines

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Mekhanika i mashinostroyeniye. no.1, 1962, 32-41

TEXT: The equations of a laminar three-dimensional boundary layer in steady-state flow of a compressible gas along a curved surface are formulated. If a certain line along which one of the curvilinear orthogonal coordinates is constant is also a geodesic line and simultaneously the streamline of an ideal fluid over the surface, then a trivial solution exists. These lines are defined as "separation lines" and along them the components of the total velocity vector lie in a single plane as they do in two-dimensional flow. The stream tubes (both outside and inside the boundary layer) diverge in two directions from these watershed lines and the boundary layer in the vicinity of these lines can be studied independently of the boundary layer over the entire

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Analysis of a three-dimensional ...

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surface. In certain cases, transformations of this analogy are possible by means of which the system of boundary layer equations along the separation lines can be converted into a system of ordinary differential equations. This analysis is carried out for the flow around a cone set at an angle of incidence, for an infinite yawed cylinder and for three-dimensional flow in the vicinity of the front stagnation point. A method of solution is proposed which is based on the use of integral relationships and a special type of approximating functions. Numerical solutions are obtained for a wide range of flow parameters and formulae are given for computing the heat exchange, the friction and other features of the boundary layer. The results of the computations are found to agree reasonably well, for particular values of the flow parameters, with the numerical computations of other research workers, e.g. E. Reshotko and J. Beckwith ("Compressible laminar boundary layer over a yawed infinite cylinder with heat transfer and arbitrary Prandtl number". NACA Report, 1958, 1379). There are 7 figures.

SUBMITTED: September 14, 1961

Card 2/2

AVDUYEVSKIY, V.S. (Moskva)

Method for calculating the three-dimensional turbulent boundary
layer in a compressible gas. Izv. AN SSSR. Otd. tekhn. nauk. Mekh.
i mashinostr. no. 4:3-12 J1-Ag '62. (MIRA 15:8)
(Boundary layer)

AVDUYEVSKIY, V.S. (Moskva); OBROSKOVA, Ye.I. (Moskva)

Liminary boundaay layer on a porous plate in the presence of a
chemical reaction on the surface. Izv.AN SSSR.Otd.tekh.nauk.Mekh.i
mashinostr. no.5:3-12 8-0 '62 (MIRA 15:10)
(Boundary layer)

S/179/62/000/002/002/012

E031/E435

10.1300

AUTHOR: Avduyevskiy, V.S. (Moscow)

TITLE: An approximate method of calculation for the three-dimensional laminar boundary layer

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Mekhanika i mashinostroyeniye, no.2, 1962, 11-16

TEXT: The equations of motion, energy and continuity in curvilinear orthogonal coordinates are transformed to a form similar to that of the equations for axisymmetric flow so that the method of solution for these equations can be used. It is assumed that the Prandtl number is unity. For the case in which the surface is cooled, the concept of the "effective length" is introduced and simple expressions for calculating the heat transfer are obtained. For the case of the three-dimensional flow over the surface of an infinite cylinder of arbitrary section with slip, the general expressions derived are used to obtain equations for the effective length and the heat flow. The three-dimensional flow over the surface of a cone is also treated. ✓

SUBMITTED: October 21, 1961
Card 1/1

L 41623-64 EWT(1)/EMP(m)/EPF(c)/EPF(n)-2/ENG(m)/EWA(d)/EPR/TCS(k)/EWA(h)/
EWA(c)/EWA(1) Pd-1/Pr-4/Ps-4/Pi-4/Pu-4 WJ/GS
ACCESSION NR: AR5010480 UR/0000/65/000/000/0029/0034

AUTHOR: Avduyevskiy, V. S. (Doctor of technical sciences)

TITLE: The effect of shock-wave curvature on heat transfer in three-dimensional, supersonic flow over bodies

SOURCE: Issledovaniye teploobmena v potokakh zhidkosti i gaza (Investigation of heat exchange in liquid and gas flows). Moscow, Izd-vo Mashinostroyeniya, 1965, 29-54

TOPIC TAGS: supersonic flow, three dimensional flow, shock wave curvature, heat transfer, supersonic flow past cone, boundary layer, laminar boundary layer, dissociation, geodetic flow line

ABSTRACT: An analytical method is developed for determining the effect of shock-wave curvature on heat transfer on the windward side of a blunt-nosed cone in a three-dimensional, supersonic flow at an angle of attack. This method is based on determining the parameters of the laminar boundary layer in the vicinity of the generatrix of the cone in the plane of symmetry on the windward side. This line corre-

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ACCESSION NR: AT5010480

sponds to the geodetic flow line where $W' = 0$ (see Fig. 1 of the Enclosure). The flow parameters of an ideal fluid outside the boundary layer are also determined for sharp and blunt-nosed cones at $M = 20$ with dissociation taken into account. The results of a numerical calculation of heat transfer on the windward generatrix of a blunt-nosed cone with a semiapex angle of 15 degrees and an angle of attack of 15 degrees, at $M = 6$ are given in graphs and compared with those determined by A. Ferri. They show that the effect of shock curvature becomes appreciable at $S/R_0 \approx 0.5$, where S is the distance from the forward stagnation point and R_0 the radius of nose bluntness, and the correction to the values of heat fluxes is of the order of 15 to 20%. This correction will be larger at large M values and in the presence of dissociation. One of the conclusions states that the region of the effect of shock-wave curvature diminishes with increasing angle of attack, though at small angles the decrease in the size of the region is greater than at corresponding increases in the semiapex angle of the cone, and at large angles of attack the effect of the two factors is almost equal. Orig. art. has: 15 figures and 52 formulas. [AB]

Cord 2/4

L 54656-6: INT(1)/EMP(m)/EPT(o)/EPF(n)-2/EPF/ENG(m)/FCS(k)/EMA(1) Pd-1/Pr-4/
Ps-1/Pr-4/Pr-4 Ww/GS/RM

ACCESSION NR: AT5010481

UR/0000/65/000/000/0055/0090

AUTHOR: Ayduvanyan, V. S. (Doctor of technical sciences); Kryukov, V. N. (Engineer); Solntsev, V. P. (Candidate of technical sciences). 35
B+1

TITLE: Experimental investigation of the structure of the boundary layer and heat transfer on a rough surface

SOURCE: Issledovaniya teploobmena v potokakh zhidkosti i gaza (Investigation of heat exchange in liquid and gas flows). Moscow, Izd-vo Mashinostroyeniya, 1965, 55-90

TOPIC TAGS: boundary layer, heat transfer, rough surface boundary layer, subsonic air flow, displacement thickness, momentum thickness, surface roughness effect

ABSTRACT: The structures of boundary layers and the heat transfer in subsonic air flows along smooth and rough surfaces near the forward stagnation point are experimentally investigated. The experimental set up, models, and techniques used are described in detail (see Fig. 1 of the Enclosure). Steel and copper disks 500 mm in

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L 54656-65

ACCESSION NR: AT5010481

diameter were used as models in the study of both processes. A method was used for measuring the local heat transfer coefficient which made it possible to determine the heat transfer coefficient α from the relation $\alpha = (cG/F)n\psi$ where c is the specific heat capacity, G the weight of the body, F the surface, n the rate of heating, and ψ the coefficient of nonuniformity of the temperature field. The boundary layer thickness, displacement thickness, and momentum thickness were determined for axisymmetric flows over smooth surfaces and surfaces of various degrees of roughness. A comparison of the results obtained here with theoretical data obtained by Loytsyanskiy (Mekhanika zhidkosti i gaza (Mechanics of Fluids and Gases) 1957, Moscow) shows a rather good agreement and that the heat transfer coefficients obtained experimentally are somewhat larger than the theoretical values. The dependence of the momentum thickness δ^{**} on the free flow velocity is also established. The results of experimental investigations of the structure of boundary layers along a rough surface in the cases of flow along a heat-insulated surface and in the presence of heat transfer are given in graphs and discussed. The results are summarized and their accuracy is evaluated on the basis of the tests performed. A series of conclusions is outlined. Orig. art. has: 43 figures and 6 formulas. [AB]

Card 2/3

L 54656-65

ACCESSION NR: AT5010481

ASSOCIATION: none

SUBMITTED: 11 Dec 64

NO REF SOV: 003

ENCL: 01

SUB CODE: ME

OTHER: 00

ATD PRESS: 3232

Card 3/43

L 22335-58 EWT(1)/EWP(m)/EWA(d)/EWA(1) WW/RM

ACC NR: AF6013193

SOURCE CODE: UR/0421/66/000/002/0019/0025

AUTHOR: Avduyevskiy, V. S. (Moscow); Medvedev, K. I. (Moscow)

ORG: none

TITLE: Separation of three-dimensional boundary layer

SOURCE: AN SSSR. Izvestiya. Mekhanika zhidkosti i gaza, no. 2, 1966, 19-26

TOPIC TAGS: supersonic aerodynamics, boundary layer, laminar boundary layer, boundary layer separation, three dimensional boundary layer

ABSTRACT: An analysis is presented of the separation of a three-dimensional boundary layer on an arbitrary curvilinear surface. Expressions for criteria for three-dimensional separation are established for laminar and turbulent flows, assuming that the friction stress τ_w at the point of separation is equal to zero. The location of the separation line is determined from the solution of an ordinary differential equation of the angle γ between the surface streamline and a streamline on the outer boundary of the boundary layer. Supersonic flows over the surface of an infinite cylinder with slip and over a cone at an angle of attack are analyzed in an orthogonal curvilinear coordinate system (x, z) . Experiments were carried out with: 1) a sharp cone with a semiapex angle $\theta = 15^\circ$ at an angle of attack $\alpha = 30^\circ$, and $M = 3.6$; and 2) a blunt-nosed cone of $\theta = 10^\circ$ at an angle of attack 20° , $M = 2.9$, and $Re = 7.8 \times 10^5$. Photographs of the flow are presented showing the separation lines on both models. Critical con-

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L 22335-66

ACC NR: AF6013193

ditions under which separation of the boundary layer can be expected are discussed in terms of the form parameter $\Gamma = \delta/\rho u_1^2 \cdot dp/dx$. The case of separation on a line of flow convergence that is a streamline on the surface whose geodesic curvature is equal to zero and which coincides with generatrices located in the plane of symmetry on the windward side of a body at an angle of attack is discussed. It is shown that separation occurred on the line $z = \pi$ at a value of the three-dimensionality parameter $K = -0.85$. (Orig. art. has: 9 figures and 37 formulas. [AB]

SUB CODE: 20/ SUBM DATE: 08May65/ ORIG REF: 001/ OTH REF: 002/ ATD PRESS:

4242

Card 2/2

L 31823-66 EWT(d)/EWT(1)/EWP(m)/EWT(m)/EWP(w)/EWP(v)/EWP(k) IJP(c) WW/EM

ACC NR: AP6020732

SOURCE CODE: UR/0421/66/000/003/0117/0119

AUTHOR: Avduevskiy, V. S. (Moscow); Medvedev, K. I. (Moscow)

ORG: none

TITLE: Investigation of laminar boundary layer separation on a cone at an angle of attack

SOURCE: AN SSSR. Izvestiya, Mekhanika zhidkosti i gaza, no. 3, 1966, 117-119

TOPIC TAGS: supersonic aerodynamics, laminar boundary layer, boundary layer separation, boundary layer thickness, supersonic flow

ABSTRACT: The results of an experimental investigation of laminar boundary layer separation on a cone at an angle of attack in a supersonic gas flow are presented.

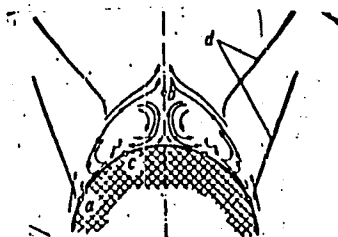


Fig. 1. Flow configuration.

- a - Point of separation of boundary layer;
- b - point of divergence of streamlines;
- c - point of separation of streamlines;
- d - shock waves.

Card 1/2

L 31823-66

ACC NR: AP6020732

The location of the line of separation and its dependence on the angle of attack is experimentally determined in the range of $M_\infty = 2.1, 3.6,$ and 6 ; Re values from 10^5 to 10^6 for cones with semiapex angles of $5, 10, 15,$ and 30° ; and illustrated by high-speed photographs and graphs. It is shown that the relative flow rate of gas from the separation zone increases with the cone angle, and that this leads to the reduction of the separation zone. The assumed flow pattern in the separation zone given in Fig. 1 shows that the divergent flow on both sides of the line $z = \pi$ on the cone surface separates once more, forming a complex system of vortices (z is the angle from the line of flow divergence). The thickness of the laminar boundary layer on the cone increases with respect to the distance from the cone apex according to the formula $\delta \sim \sqrt{x}$. Orig. art. has: 7 figures and 5 formulas. [AB]

SUB CODE: 20/ SUBM DATE: 02Dec65/ ORIG REF: 002/ ATD PRESS: 5020

Card 2/2 20

PERFDUNOV, A.A., podpolkovnik; AVDUYEVSKIY, G.V., starshiy tekhnik-leutenant

From experience in using means of little mechanization in flight. Mor.
sbor. 47 no.6:59-61 Je '64. (MIRA 18:7)

AVDUYEVSKIY, V.F.; SOLNTSEV, V.A.

Selecting operational frequency in measuring by the screen method.

Izm.tekh. no.9:8-10 S '65.

(MIRA 18:10)

L 2956-66 EWP(d)/EWP(c)/EWP(v)/T/EWP(k)/EWP(l)/ETC(m)

WW

ACCESSION NR: AP5021436

UR/0146/65/008/004/0036/0042
531.717

AUTHOR: Avduevskiy, V. F.

3/
28
B

TITLE: Screen method for inspecting metal bands

SOURCE: IVUZ. Priborostroyeniye, v. 8, no. 4, 1965, 36-42

TOPIC TAGS: metal inspection, electric measuring instrument, thickness measurement, alternating magnetic field

ABSTRACT: The author analyzes the electromagnetic processes which take place in a nonmagnetic metal band when its thickness is being measured by the screen method. This method is based on the change in the screening effect of eddy currents induced by a high frequency alternating magnetic field when the thickness of the band varies. This change in screening effect is found from the change in emf in the secondary of an air-core transformer in which the band to be inspected is placed. An expression is derived for the voltage across the secondary winding of the transformer as a function of band thickness. A graph is given showing this function for an aluminum strip

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L 2956-66

ACCESSION NR: AP5021436

3

and a brass strip at various frequencies. Curves are given showing the voltage at the secondary as a function of thickness for an aluminum band at various distances between the primary and secondary coils. Comparison of the theoretical data with experimental results shows good agreement. It is found that the voltage across the secondary is independent of the position of the conducting band in the coil gap when the frequency and current in the primary are held constant. The ratio between the voltages across the secondary with and without a conducting band in the coil gap is determined as a function of band thickness by the ratio between thickness and the equivalent depth of penetration of the field. Orig. art. has: 4 figures, 8 formulas.

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut im. V. I. Ul'yanova (Lenina) (Leningrad Electrical Engineering Institute)

SUBMITTED: 23Sep64

44 ENCL: 00

55 SUB CODE: IE, EM

NO REF SOV: 004

OTHER: 003

Card 2/2 *And*

AVDYKOLICH, A.A.

Bimicroscopy of the ciliary margin of the eyelid under normal conditions and in nonspecific blepharitis. Sov.med. 24 no.3:99-106 Mr '60. (MIRA 14:3)

1. Iz Bronnitskoy rayonnoy bol'nitsy Moskovskoy oblasti (glavnyy vrach - kandidat meditsinskikh nauk V.P.Korotkikh). (EYELIDS—DISEASES)

AVDYKOVICH, A.A.; MARCHENKO, V.I., kand.med.nauk

Pharyngo-conjunctival fever in ophthalmological practice in the
Bronnitsy zone of Moscow Province. Vest.oft. no.6:44-45 '60.
(MIRA 14:11)

1. Bronnitskaya bol'nitsa Moskovskoy oblasti i Virusologicheskaya
laboratoriya Moskovskogo oblastnogo nauchno-issledovatel'skogo
klinicheskogo instituta.

(BRONNITSY—ADENOVIRUS INFECTIONS) (CONJUNCTIVA—DISEASES)

AVDYKOVICH, A.A.

Synthetic fibers as foreign bodies in the conjunctiva. Vest.oft.
no.3:77-78 My-Je '62. (MIRA 15:8)

1. Bronnitskaya bol'nitsa Moskovskoy oblasti.
(CONJUNCTIVA--FOREIGN BODIES)

CHETVERUSHKIN, B.V.; AVDYKOVICH, A.A.

Use of BF glue during the postoperative period in the treatment
of microtrauma, burns and frostbite. Khirurgiia 38 no.10:26-28
0 '62. (MIRA 15:12)

1. Iz Bronitskoy bol'nitsy (glavnyy vrach - kand.med.nauk V.P.
Korotkikh) Moskovskoy oblasti.

(BANDAGES AND BANDAGING) (BURNS AND SCALDS)
(FROSTBITE)

AVDYKOVICH, A.A.

Cytoscopy of conjunctival scrapings in pharyngoconjunctival fever. Vest. oft. 76 no.1:46-52 Ja-I'63. (MIRA 16:6)

1. Gorodskaya bol'nita, Bronnitsy.
(CONJUNCTIVITIS) (PATHOLOGY, CELLULAR)
(PHARYNX—DISEASES)

AVDYUKHEVICH, Vladimir Konstantinovich; GENCHKE, A.A., red.

[Organization of radio communications in topographic,
geodetic and geological field work] Organizatsiya radio-
svyazi na topografo-geodezicheskikh i geologicheskikh
rabotakh. Moskva, Nedra, 1965. 98 p. (MIRA 18:10)

AVDYKOVICH, O.N. (Moskva)

Galanthamine. Priroda 49 no.10:90 0 '60.
(Galanthamine)

(MIRA 13:10)

Avdyugina, T.

2-58-4-9/14

AUTHORS: Avdyugina, T., Bunatyan, Sh., Ginzburg, Ye., Kozlova, K.,
Economists; Kobzev, V., Engineer-Mechanizer

TITLE: Active Help Needed (Muzhna pomoshch' delom)

PERIODICAL: Vestnik Statistiki, 1958, Nr 4, pp 80-81 (USSR)

ABSTRACT: The article is a report by a number of statisticians and computer experts from the USSR Central Statistical Administration sent in January 1958 to assist the Georgian Statistical Administration. Undertakings and firms had been negligent and dilatory in furnishing the required statistical reports. In addition, there had been insufficient cooperation and synchronization between branch departments and computer stations. As a result of warnings issued to undertakings and improved methods adopted in computer stations, the efficiency of dispatching, processing, and analyzing data greatly increased and reports were published on time. It is recommended that more such brigades be sent.

Card 1/2

Active Help Needed

2-58-4-9/14

ASSOCIATIONS: TsSU SSSR (TsSU USSR)

Soyuzmashuchet TsSU SSSR (Soyuzmashuchet TsSU USSR)

AVAILABLE: Library of Congress

Card 2/2

L. 9365-66 EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c) MJW/JD
 ACC NR: AP023267 SOURCE CODE: UR/0128/65/000/003/0039/0040
 AUTHOR: Barik, P. P. (Doctor of technical sciences); Clotov, Ye. B. (Engineer); Avdyukhin, V. P. (Engineer) 61
 44,55
 ORG: none
 TITLE: Effect of techniques of the vacuum heating of aluminum alloys on their gas content 27
 SOURCE: Liteynoye proizvodstvo, no. 8, 1965, 39-40
 TOPIC TAGS: vacuum melting, aluminum alloy, gas content, hydrogen, metal film, oxide 44,55 16
 ABSTRACT: (The technological parameters and effectiveness of the vacuum heating of AL4, AL5 and AL9 aluminum alloys were investigated under shop conditions in an industrial vacuum furnace with a capacity of 250 kg (Fig. 1: 1 - vacuum furnace; 2 - manovacuum gauge; 3 - DU-50 vacuum valve; 4 - vacuum-system filter). The furnace is evacuated with VN-1MC type vacuum filter 5; the fall in pressure in the furnace as a function of evacuation time is shown in Fig. 2. Findings: the optimal duration of vacuum heating at 1-4 mm Hg and 720-750°C is 15-20 min. The residual content of hydrogen in the alloys is virtually the same following vacuum heating at 720, 730 and 750°C, but the content of oxides varies; this is attributed to the decrease in the
 Card 1/3 UDC: 669.715:533.5

L: 9365-66

ACC. NR. AP5023267

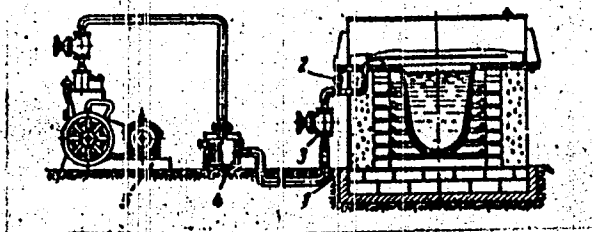


Fig. 1.

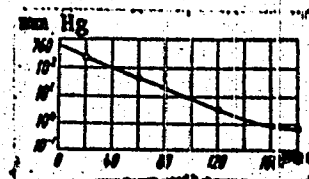


Fig. 2

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